

**REMARKS****Drawings**

The drawings have been objected to under 35 CFR 1.83(a) as allegedly failing to show "that the master process model 20 depicted includes with it, but is not limited, to, the virtual blank 10, added manufacturing features 12a-12j by way of virtual machining, and datum planes 2, 3, and 4, all in their respective associative relationships as exhibited from the geometries and characteristics of the reference set 26" as described in the specification on page 19, lines 2-6. The Applicants respectfully disagree with this objection and respectfully direct the Examiner's attention to, e.g., Figures 6 and 8. Therein depicted are each of the aforementioned elements and their respective relationships. The Applicants accordingly submit that the drawings are in compliance with 37 CFR 1.83(a) and respectfully request reconsideration and withdrawal of the objection.

**Specification**

The Examiner has objected to the specification under 35 USC 112, first paragraph, as allegedly containing terms which are not clear, concise and exact. The Applicants have modified the Specification in accordance with the Examiner's suggestion and submit that the Specification is in compliance with 35 USC 112, first paragraph. Reconsideration and withdrawal of the objection is respectfully requested.

**Claim Disposition**

Claims 1, 2, 9 - 18, 21 - 24, 31 - 40, 43 - 46, 53 - 62, 65 - 68, 75 - 84, 87 and 88 are pending in the application. Claims 1, 2, 16, 23, 24, 38, 45, 56, 60, 67, 68, and 82 have been amended. Claims 12, 34, 56, and 78 have been canceled. Claims 89-92 have been added. The Applicants submit that claims 1, 2, 9-11, 13-18, 21-24, 31-33, 35-40, 43-46, 53-55, 57-62, 65-68, 75-77, 79-84, and 87-92 are in condition for allowance for at least the reasons presented herein. No new matter has been entered by this amendment.

**Claim Objections**

Claims 12, 34, 56 and 78 have been objected to under 37 CFR 1.75(c) as allegedly being in improper form. Claims 12, 34, 56, and 78 have been canceled and have been replaced with new claims 89-92. The Applicants submit that new claims 89-92 are in

compliance with 37 CFR 1.75(c) and respectfully request withdrawal of the objections.

**Claim Rejections Under 35 USC §112**

Claims 1, 2, 9-18, 21-24, 31-40, 43-46, 53-62, 65-68, 75-84, 87 and 88 are rejected under 35 U.S.C. 112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner states with respect to claims 1, 23, 45, and 67 that these claims "require the limitation of virtual machining a manufacturing feature into a virtual blank, wherein the manufacturing feature exhibits an associative relationship with a coordinate system, wherein the virtual blank is included in a master product and process concurrent model that lacks an associative relationship with the coordinate system. Since the master process model includes the virtual blank, it would also, by association, have a relationship with the coordinate system. Therefore, it is not clear how the master process model lacks an associative relationship with the coordinate system."

The Applicants submit that claims 1, 23, 45, and 67 are in compliance with the provisions of 35 U.S.C. 112, second paragraph, at least for the reasons presented above. Accordingly, the Applicants respectfully request reconsideration and withdrawal of the outstanding rejections.

With respect to claim 23, the Examiner states it is not clear how a method can comprise a product drawing. The Applicants have amended claim 23 to recite "generating a product drawing..." and submit that claim 23 is sufficiently definite. Reconsideration and withdrawal of the rejection is respectfully requested.

The Examiner further states with respect to claims 2, 24, 46, and 68 that these claims require the limitation that "said associative relationship is a parent/child relationship", however claims 2, 24, 46, and 68 depend from claims 1, 23, 45, and 67, respectively, and that claims 1, 23, 45, and 67 recite the limitations of a model "lacking an associative relationship" and a feature "exhibiting an associative relationship". The Examiner states that it is unclear which associative relationship is "said associative relationship". The Applicants have amended claims 2, 24, 46, and 68 to recite "wherein said associative relationship *exhibited between said at least one manufacturing feature and said coordinate system* is a parent/child relationship." It is believed that the amendments made to claims 2, 24, 46, and 68 render moot the rejections under 35 U.S.C. 112, second paragraph. Accordingly, the Applicants respectfully request reconsideration

and withdrawal of the outstanding rejections.

The Examiner states that there is insufficient antecedent basis for the limitation "said datum planes" as recited in claims 16, 38, 60, and 82. The Applicants have amended claims 16, 38, 60, and 82 to recite "wherein said *one or more* datum planes" and submit that claims 16, 38, 60, and 82 provide sufficient antecedent basis.

**Claim Rejections Under 35 USC §101**

Claims 67, 68, 75-84, 87 and 88 have been rejected under 35 U.S.C. 101 as being allegedly directed to non-statutory subject matter. The Examiner states that the data signal recited in claims 67, 68, 75-84, 87 and 88 is non-statutory descriptive material per se because it is not tangibly embodied in a computer-readable medium. The Applicants have amended claim 67 to recite a "computer data signal *tangibly embodied in a computer-readable medium* and propagated over a transmission medium for communication with a computer" as suggested by the Examiner. The Applicants submit that claim 67 complies with the statutory requirements provided under 35 U.S.C. 101 and respectfully requests reconsideration and withdrawal of the outstanding rejection. It is believed that claims 68, 75-84, 87 and 88 are in compliance with the provisions of 35 U.S.C. 101 at least for reasons of their dependencies upon claim 67. The Applicants respectfully request reconsideration and withdrawal of the outstanding rejections of claims 67, 68, 75-84, 87 and 88.

**Claim Rejections Under 35 USC §103**

Claims 1, 2, 9-18, 21-24, 31-40, 43-46, 53-62, 65-68, 75-84, 87 and 88 have been rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over U.S. Pat. No. 6,629,065 to Gadh, in view of U.S. Pat. No. 4,928,221 to Belkhiter.

Referring to claims 1, 23, 45, and 67, the Examiner states that Gadh discloses each of the elements provided therein with the exception of generating a product drawing of a real-world component from said master product and process concurrent model and deriving manufacturing instructions from the master product and process concurrent model to create a real-world component by machining the manufacturing feature into the real-world blank. The Examiner introduces Belkhiter as allegedly teaching this feature.

The Applicants respectfully traverse. Gadh is devoid of teaching generating a virtual blank from a referenced set of geometries. Further, Gadh is devoid of teaching that the virtual blank lacks an associative relationship with a coordinate system. Moreover, Gadh neither teaches nor suggests virtual machining a manufacturing feature into the virtual blank whereby the manufacturing feature exhibits an associative relationship with the coordinate system. Gadh clearly teaches that the associative relationships are between the blocks, and not with a coordinate system, to establish the positioning and placement in various directions. For example, Gadh at Col. 24, lines 9 states: "FIG. 25A illustrates alignment of  $b_2$ , a child of  $b_1$ , in a +X axis (emphasis added) fixed on  $b_1$ ....Similarly, Fig. 25B illustrates alignment of  $b_3$  in the +X axis (emphasis added) with its parent  $b_2$ ." Furthermore, Gadh specifically teaches that the VSDF "uses a coordinate-system Independent (emphasis added), ...method of alignment." Clearly this teaches directly away from Applicants claims. As Gadh does not teach these elements recited in claims 1, 23, 45, and 67, it follows that the combination of Gadh and Belkhiter would not result in the Applicants claims 1, 23, 45, and 67.

Therefore, because neither Gadh, nor Belkhiter, alone or in combination, disclose or make obvious each element of Applicants claims 1, 23, 45, and 67, they cannot render Applicant's claims unpatentable. Thus, the Applicants submit that claims 1, 23, 45, and 67 are in condition for allowance and respectfully request reconsideration and withdrawal of the outstanding rejections.

The Examiner states on page 8 of the Office Action that while "the examiner interprets the claims to require at least a horizontally structured relationship in the preamble, the claims do not required any of the limitations in the body of the claims to have such a horizontal structure, exclusive, or non-exclusive CAD/CAM relationship. Namely, the claims do not require a horizontally structured CAD/CAM relationship with respect to generating a product drawing or deriving machining instructions to create a real-world component by machining the manufacturing feature into the real-world blank." The Applicants respectfully disagree and submit that *the recited features as amended in the claims* fully support a horizontally structured relationship among elements claimed therein.

Claims 2, 9-11, 13-18, 21, 22, and 89 depend from what should be an allowable claim 1. Claims 24, 31-33, 35-40, 43, 44, and 90 depend from what should be an allowable claim 23. Claims 46, 53-55, 57-62, 65, 66, and 91 depend from what should now be an allowable claim 45. Claims 68, 75-77, 79-84, and 92 depend from what should

be an allowable claim 67. For at least these reasons, the Applicants submit that claims 2, 9-11, 13-18, 21, 22, 24, 31-33, 35-40, 43-46, 53-55, 57-62, 65, 66, 68, 75-77, 79-84, and 87-92 are in condition for allowance and respectfully request reconsideration and withdrawal of the outstanding rejections.

**CONCLUSION**

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is requested. It is submitted that the foregoing amendments and remarks should render the case in condition for allowance.

Accordingly, as the cited references neither anticipate nor render obvious that which the applicant deems to be the invention, it is respectfully requested that claims 1, 2, 9-11, 13-18, 21, 22-24, 31-33, 35-40, 43-46, 53-55, 57-62, 65-68, 75-77, 79-84, and 87-92 be passed to issue.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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